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backrest system as set forth in claim 1, wherein] said support chassis [further] including[es] a pair of side plates with one side plate being disposed between each post and said back support, and at least one horizontal tube attached to and extending transversely between said side plates across said back support; and

an attachment assembly operably connected to said support chassis and connectable to the posts to allow said support chassis and back support to be readily removed from or attached to the chair.

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6. (Amended) The backrest system as set forth in claim [1] 2, wherein said attachment assembly further includes a pair of bands with one band being positioned around each of said posts at a desired height, a pair of adapters having axially extending openings formed therein with one adapter being positioned opposite to said post inside each band, and at least one wedging mechanism positioned inside each band between said post and said adapter to force said band to remain in place along said post.

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18. (Amended) A backrest system for a chair for seating an individual, said chair having a seat and upright posts extending upwardly from the rear of the seat in a spaced apart, substantially parallel manner, said backrest system comprising:

a back support removably positioned between said posts to support the back of an individual sitting on the chair seat;

a support chassis disposed between said posts and mounted to said back support for supporting said back support at a desired incline with respect to said posts; and

[an] a two-point attachment assembly [mounted] connectable to each of said posts at a desired location along each post for releasably securing said support chassis to said posts.

19. (Amended) The backrest system as set forth in claim 18, wherein said attachment assembly is [attached] adjustably connectable to said posts at a desired location based upon the height of the individual.

20. (Amended) The backrest system as set forth in claim 18, wherein said support chassis is movable forwardly and rearwardly with respect to said posts to allow for positioning of said back support at a desired seat depth with respect to said seat, said support chassis allowing for the seat depth and the incline of said back support to be adjusted independently.

21. (Amended) The backrest system as set forth in claim 20, wherein said support chassis further includes a pair of side plates disposed on opposite sides of said back support between said back support and said posts, each side plate having a horizontally extending slot formed therein to permit forward and rearward movement of said back support [within said slots] to adjust the seat depth.

22. (Amended) A backrest system for a chair for seating an individual, said chair having a seat and upright posts extending upwardly from the rear of the seat in a spaced apart, substantially parallel manner, said backrest system comprising:

a back support removably positioned between said posts to support the back of an individual sitting on the chair seat;

a support chassis disposed between said posts and mounted to said back support for supporting said back support at a desired incline with respect to said posts, said support chassis being movable forwardly and rearwardly with respect to said posts to allow for positioning of said back support at a desired seat depth with respect to said seat, said support chassis further including a pair of side plates disposed on opposite sides of said back support between said back support and said posts; each side plate having a horizontally extending slot formed therein to

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permit forward and rearward movement of said back support to adjust the seat depth, [The backrest system as set forth in claim 21, wherein ]said support chassis further including[es] a pair of swivel clamps mounted to said side plates having circumferentially extending slots formed therein to permit angular rotation of said back support with respect to said posts to adjust the incline of the back support; and

an attachment assembly connectable to each of said posts for releasably securing said support chassis to said posts.

24. (Amended) The backrest system as set forth in claim 23 wherein said back support includes a plurality of pads mounted to said support tubes at desired locations based upon [the] support needs and proportions of the individual.

25. (Amended) The backrest system as set forth in claim 24 wherein each of said pads is adjustable [within at least five degrees of freedom, including movement of said pads ] inwardly, outwardly and laterally with respect to said support tubes and at forward and rearward inclines with respect to said support tubes to provide a support surface for the individual sitting on the seat based upon that individual's dimensions and support needs.

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26. (Amended) A backrest system for a chair for seating an individual, said chair having a seat and upright posts extending upwardly from the rear of the seat in a spaced apart, substantially parallel manner, said backrest system comprising:

a back support removably positioned between said posts to support the back of an individual sitting on the chair seat;

a support chassis disposed between said posts and mounted to said back support for supporting said back support at a desired incline with respect to said posts;

a pair of support tubes attached to said support chassis and extending vertically therefrom  
in a substantially parallel, spaced apart manner; and

an attachment assembly connectable to each of said posts for releasably securing said  
support chassis to said posts;

said back support including a plurality of pads mounted to said support tubes at desired  
locations based upon support needs and proportions of the individual; each of said pads being  
movable inwardly, outwardly and laterally with respect to said support tubes and at forward and  
rearward inclines with respect to said support tubes to provide a support surface for the  
individual sitting on the seat based upon that individual's dimensions and support needs, [The  
backrest system as set forth in claim 25 wherein] each pad [is] being attached to at least one of  
said support tubes by an elbow joint that permits inward, outward and lateral movement of said  
pad.

27. (Amended) The backrest system as set forth in claim 26 wherein each pad is  
attached to said elbow joint by a ball and socket joint[, said ball and socket joint and said elbow  
joint allowing for movement of said pad within at least five degrees of freedom].

36<sup>36</sup> (Amended) The backrest system as set forth in claim 36 wherein said headrest  
pad is attached to said elbow joint by a ball and socket joint[, said ball and socket joint and said  
elbow joint permitting movement of said headrest pad within five degrees of freedom].

39. (Amended) The backrest system as set forth in claim 18 wherein said back  
support includes a substantially rigid backing plate and an insert attached to a forwardly  
presented face of said backing plate against which the back of the user rests when sitting in the  
chair; said backing plate being supported by said support chassis at the desired incline.

40. (Amended) A backrest system for a chair for seating an individual, said chair having a seat and a pair of upright posts extending upwardly from the rear of the seat in a spaced apart manner, said backrest system comprising:

a support frame [structure] releasably secured between said posts at one location along each post, said support frame being horizontally movable [toward or away from] forwardly and rearwardly with respect to said posts to position said support frame at a desired seat depth with respect to said seat; and

a back support mounted to said support frame [structure] to provide a surface against which the back of the individual rests when seated in the chair.

41. (Amended) The backrest system as set forth in claim 40 wherein said support frame [structure is rotatable] allows for rotation of said back support forwardly and rearwardly with respect to said posts to position said back support at a desired incline with respect to said posts, said support frame allowing for independent adjustment of seat depth and back support incline.

42. (Amended) A backrest system for a chair for seating an individual, comprising: a pair of support tubes [attached] connectable to a rear of said chair and <sup>extendable</sup> ~~extending~~ vertically therefrom in a substantially parallel, spaced apart manner; [and] at least one back support pad attached to at least one of said support tubes at a desired location based upon [the] support needs and proportions of an individual sitting in the chair; [said pad being coupled to said support tube by] and at least one elbow joint having one end connected to the support tube at one location along the support tube and at an opposite end to the support pad for adjustably securing the support pad to the support tube at the desired location, said elbow joint permitting inward, outward and lateral movement of said pad.

43. (Amended) The backrest system as set forth in claim 42 wherein each pad is attached to said elbow joint by a ball and socket joint, said ball and socket joint [and said elbow joint] having an unlocked position permitting rotational movement of said pad and a locked position for supporting said pad in the desired location[within at least five degrees of freedom with respect to said support tubes].

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44. (Amended) A backrest system for a chair for seating an individual, comprising: a pair of support tubes connectable to a rear of said chair and extendable vertically therefrom in a substantially parallel, spaced apart manner; and at least one back support pad attached to at least one of said support tubes at a desired location based upon support needs and proportions of an individual sitting in the chair; said pad being coupled to said support tube by at least one elbow joint, said elbow joint permitting inward, outward and lateral movement of said pad, [The backrest system as set forth in claim 42 wherein ]said elbow joint including[es] a first member [including] having a first end [having] with a first opening extending therethrough and a second end attached to said support tube, said elbow joint further including a second member having a first end coupled to said first end of said first member via a swivel attachment assembly[, and a second end attached to said pad via a ball and socket joint, said swivel attachment assembly including a post extending outwardly through an opening formed in the first end of the second member and through the first opening of the first member, and a retaining device attached to said post for preventing said post from becoming dislodged from said first and second members and permitting said first member to rotate freely about said post, said elbow joint further including a locking mechanism for selectively preventing rotation of said first member with respect to said second member when said elbow joint is positioned at a desired orientation.

46. (Amended) A backrest system for a chair for seating an individual, comprising: a pair of support tubes connectable to a rear of said chair and <sup>extendable</sup> ~~extending~~ vertically therefrom in a substantially parallel, spaced apart manner; and at least one back support pad attached to at least one of said support tubes at a desired location based upon support needs and proportions of an individual sitting in the chair; said pad being coupled to said support tube by at least one elbow joint, said elbow joint permitting inward, outward and lateral movement of said pad, each pad being attached to said elbow joint by a ball and socket joint, [The backrest system as set forth in claim 43 wherein] said ball and socket joint including[es] a ball having a first section and a second section, said second section being attached to said elbow joint, a socket having a cavity formed therein adapted to receive said ball, and means for radially moving said first section of said ball inwardly or outwardly with respect to said second section of said ball, said joint being in an unlocked position permitting rotation of said socket with respect to said ball when said first section is moved inwardly toward said second section, said joint being in a locked position preventing movement of said socket with respect to said ball when said first section is moved radially outwardly from said second section into engagement with said socket.

47. (Amended) A backrest system for a chair for seating an individual, comprising: a pair of support tubes connectable [attached] to a rear of said chair and <sup>extendable</sup> ~~extending~~ vertically therefrom in a substantially parallel, spaced apart manner; and at least one [one or more] back support pad[s] attached to at least one of said support tubes at a desired location based upon [the] support needs and proportions of an individual sitting in the chair; said pad being attached to said support tube by a ball and socket joint having an unlocked position that permits rotational movement of the pad and adjustment of forward and rearward incline of said pad with respect to

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said support tube to position the pad in the desired location and a locked position that supports the pad at the desired location.

49. (Amended) A backrest system for a chair for seating an individual, comprising: a pair of support tubes connectable to a rear of said chair and <sup>extendable</sup> extending vertically therefrom in a substantially parallel, spaced apart manner; and at least one back support pad attached to at least one of said support tubes at a desired location based upon support needs and proportions of an individual sitting in the chair; said pad being attached to said support tube by a ball and socket joint that permits forward and rearward incline of said pad with respect to said support tube; [The backrest system as set forth in claim 47 wherein] said ball and socket joint including[es] a spherical ball including a first section and a second section, a socket having a spherical cavity formed therein that is sized to receive at least a portion of said ball, and means for radially moving said first section of said ball inwardly or outwardly with respect to said second section of said ball, said ball being in an unlocked position permitting rotation of said ball in said socket when said first section is in abutment with said second section of said ball, said ball being in a locked position preventing movement of said ball in said socket when said first section is moved radially outwardly from said second section into engagement with said socket.

58. (Amended) A backrest system for a chair for seating an individual, comprising:  
a pair of support tubes [attached] connectable to a rear of said chair and <sup>extendable</sup> extending vertically therefrom in a substantially parallel, spaced apart manner;  
a back support [attached] removably secured to said support tubes to support the back of an individual sitting on the chair seat;  
a headrest assembly removably mounted to said support tubes at a desired position to support the head of the individual seated in the chair, including a mounting assembly that is

removably secured to said support tubes, and a headrest pad attached to the mounting assembly against which the head of the individual rests when the individual is seated in the chair, said mounting assembly having an unlocked position allowing for adjustment of said headrest pad to obtain the desired position and a locked position for preventing movement of the headrest pad when the desired position is obtained.

59. (Amended) The backrest system as set forth in claim 58 wherein said mounting assembly permits forward and rearward movement of said headrest pad with respect to said support tubes in the unlocked position.

60. (Amended) The backrest system as set forth in claim 58 wherein said [headrest]mounting assembly further includes a pair of elbow joints that attach said headrest pad to said support tubes with one elbow joint releasably secured to each support tube and extending between the support tube and the headrest pad, said elbow joints having an unlocked position permitting inward, outward and lateral movement of said headrest pad with respect to said support tubes and a locked position preventing inward, outward and lateral movement of the headrest pad, said elbow joints being attached to said mounting assembly at desired locations based upon the height and support needs of the individual.

61. (Amended) The backrest system as set forth in claim 60 wherein said headrest pad is attached to each elbow joint by a ball and socket joint, said ball and socket joint having an unlocked position permitting rotary movement of said headrest pad and a locked position preventing the rotary movement of the headrest pad.

62. (Amended) A backrest system for a chair for seating an individual, comprising:

a pair of support tubes [attached] removably connectable to a rear of said chair and

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c extending vertically therefrom in a substantially parallel, spaced apart manner; and

a plurality of individual support pads with each pad being removably secured to at least one of said support tubes to support the back of an individual sitting on the chair seat, said back support pads including a first pad attached to both support tubes at a desired location along each support tube to provide a first tier of support for the sacral region of the back of the individual seated in the chair, a pair of pads including a second and a third pad to provide a second tier of support for the lumbar region of the individual's back, said second pad being attached to one support tube at a desired location and the third pad being attached to the other support tube at a location corresponding to that of the second pad, and a fourth pad attached to the support tubes at a desired location along each support tube to provide<sup>a</sup> third tier of support for the mid-thoracic region of the individual's back.

63. (Amended) The backrest system as set forth in claim 62 wherein said support pads further include a fifth pad mounted on said support tubes at a desired location along each tube to provide a fourth tier of support for the upper thoracic region of the individual's back.

64. (Amended) The backrest system as set forth in claim 63 further including a headrest pad removably mounted on said support tubes to provide a fifth tier of support for the head of the individual.

65. (Amended) A backrest system for a chair for seating an individual, comprising:  
a pair of support tubes connectable to a rear of said chair and<sup>extendable</sup> extending vertically therefrom in a substantially parallel, spaced apart manner;  
a plurality of support pads attached to said support tubes to support<sup>a</sup> the back of an individual sitting on the chair seat, said back support pads including a first pad to provide a first tier of support for the sacral region of the back of the individual seated in the chair, a pair of pads including a second and a third pad to provide a second tier of support for the lumbar region of

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the individual's back, said second pad being attached to one support tube at a desired location and the third pad being attached to the other support tube at a location corresponding to that of the second pad, and a fourth pad attached to the support tubes to provide a third tier of support for the mid-thoracic region of the individual's back, and a fifth pad mounted on said support tubes to provide a fourth tier of support for the upper thoracic region of the individual's back;

a headrest pad mounted on said support tubes to provide a fifth tier of support for the head of the individual; and

[The backrest system as set forth in claim 64 further including] a plurality of pad covers with one pad cover removably positioned around each support pad.

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69. (Amended) A backrest system for a chair for seating an individual, said chair having a seat and upright posts extending upwardly from the rear of the seat in a spaced apart, substantially parallel manner, said backrest system comprising:

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a back support removably positioned between said posts to support the back of an individual sitting on the chair seat, including a plurality of pads with each pad being positioned to support a particular region of the individual's back, each pad having a backing plate and an insert attached to a forwardly presented face of said backing plate against which the region of the back of the individual rests;

a support chassis disposed between said posts and mounted to said back support for supporting each pad of said back support at a desired location with respect to the individual's back[incline with respect to said posts]; and

[an] a two-point attachment assembly [mounted] connectable to each of said posts at a desired location along each post for releasably securing said support chassis to said posts.

70. (Amended) The backrest system as set forth in claim 69 further including a plurality of back support covers with one cover being removably positioned around said insert and at least a portion of said backing plate for each pad associated with the back support.

71. (Amended) The backrest system as set forth in claim 70 wherein said covers are [is] constructed from a washable fabric material.

72. (Amended) The backrest system as set forth in claim 70 wherein each of said covers wraps around [said] one of the back support pads in its substantial entirety and is held in position by hook and loop fasteners attached to the cover.

73. (Amended) The backrest system as set forth in claim 70 wherein [said] each cover includes an elastic band attached to an outer edge of said cover, said cover being slipped over the insert and backing plate and held in place by said elastic band.

74. (Amended) A ball and socket joint comprising:  
a substantially spherical ball including a first section and a second section formed by passing a cutting plane through the ball, said first section having a maximum circumference corresponding to that of a small circle of the ball, said second section having a maximum circumference corresponding to that of a great circle of the ball;

a socket having a cavity formed therein that is sized to receive at least a portion of said ball; and

[means for moving ]said first section of said ball being movable inwardly [or] and outwardly with respect to said second section of said ball, said ball being in an unlocked position permitting rotation of said socket with respect to said ball when said first section is in abutment with said second section of said ball; said ball being in a locked position preventing movement of

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said socket with respect to said ball when said first section is moved radially outwardly from said second section into engagement with said socket.

76. (Amended) A ball and socket joint comprising:

a ball including a first section and a second section, said ball having an opening extending radially through said second section;

a socket having a cavity formed therein that is sized to receive at least a portion of said ball; and

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means for moving said first section of said ball inwardly and outwardly with respect to said second section of said ball, said ball being in an unlocked position permitting rotation of said socket with respect to said ball when said first section is in abutment with said second section of said ball; said ball being in a locked position preventing movement of said socket with respect to said ball when said first section is moved radially outwardly from said second section into engagement with said socket,

[The ball and socket joint of claim 75, wherein] said means including[es] a threaded stud attached to said first section of said ball and extending through said opening in said second section outwardly from said socket, said stud being movable within said opening inwardly to an extended position and outwardly to a retracted position, said ball being maintained in the unlocked position when said stud is in the retracted position, said ball being maintained in the locked position when said stud is in the extended position.

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(Amended) The ball and socket joint as set forth in claim 74 wherein said first section of said ball is constructed from a nylon material, said nylon material allowing for flexure of the first section in the socket when in the locked position to prevent movement of the ball in the socket when an external load is applied to the socket.

78. (Amended) A ball and socket joint comprising:

a ball including a first section and a second section, said first section of said ball being constructed from a nylon material, [The backrest system as set forth in claim 77 wherein ]said second section of said ball [is]being constructed from a strong engineering plastic material;

a socket having a cavity formed therein that is sized to receive at least a portion of said ball; and

said first section of said ball being movable inwardly and outwardly with respect to said second section of said ball, said ball being in an unlocked position permitting rotation of said socket with respect to said ball when said first section is in abutment with said second section of said ball; said ball being in a locked position preventing movement of said socket with respect to said ball when said first section is moved radially outwardly from said second section into engagement with said socket.

79. (Amended) The [backrest system] ball and socket joint as set forth in claim 78 wherein said cavity in said socket is formed in a strong engineering plastic material.

80. (Amended) The [backrest system] ball and socket joint as set forth in claim 79 wherein said socket further includes a C-ring bracket that is positioned around said ball disposed in said cavity, said bracket exerting force of said ball when said ball is in the locked position to prevent rotation of said ball.

81. (Amended) The [backrest system] ball and socket joint as set forth in claim 80 wherein said bracket is constructed from a metal material.

82. (Amended) The [backrest system] ball and socket joint as set forth in claim 81 wherein said bracket is constructed from a strong engineering plastic material, said bracket

having an inner edge that is adapted to frictionally engage said ball when said ball is in said locked position to prevent rotation of said ball.

83. (Amended) A ball and socket joint comprising:

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a substantially spherical ball including a first section, a second section, a threaded opening extending radially through said second section of said ball, said first and second sections being formed by passing a cutting plane through the ball, said first section having a maximum circumference corresponding to that of a small circle of the ball, said second section having a maximum circumference corresponding to that of a great circle of the ball;

a socket having a cavity formed therein that is sized to receive a portion of said ball;

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a threaded stud attached to said first section of said ball and adapted to be engaged by and disposed in the threaded opening of the second section, said stud extending [through said opening in said second portion] outwardly from said socket, said stud being movable within said opening inwardly to an extended position and outwardly to a retracted position, said stud moving said first section of said ball into abutment with said second section when said stud is in the retracted position to permit said ball to rotate freely in said socket, said stud moving said first section of said ball outwardly away from said second section into engagement with said socket when said stud is in the extended position to prevent rotation of said ball in said socket.

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84. (Amended) A ball and socket joint comprising:

a substantially spherical ball including a first section, a second section, a threaded opening extending radially through said second section of said ball;

a socket having a cavity formed therein that is sized to receive a portion of said ball,  
[The ball and socket joint as set forth in claim 83, wherein ]said socket including[es] a base having said cavity formed therein, and a C-shaped bracket secured to said base when said ball

is positioned inside said cavity, said bracket having an inner edge positioned around a portion of said ball[, ];

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a threaded stud attached to said first section of said ball and extending through said opening in said second section outwardly from said socket, said stud being movable within said opening inwardly to an extended position and outwardly to a retracted position, said stud moving said first section of said ball into abutment with said second section when said stud is in the retracted position to permit said ball to rotate freely in said socket, said stud moving said first section of said ball outwardly away from said second section into engagement with said socket when said stud is in the extended position to prevent rotation of said ball in said socket, said stud extending outwardly through said bracket and permitting limited rotation of said ball in said socket when said stud is in the retracted position, said inner edge of said bracket engaging said ball when said stud is in the extended position to prevent rotation of said ball in said cavity.

Please add the following claims:

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92. A backrest system for releasable attachment to a chair, the chair having a seat and upright posts extending upwardly from the rear of the seat in a spaced apart, substantially parallel manner, said backrest system comprising:

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a back support adapted to be positioned generally between the posts to provide a surface against which the back of an individual rests when the individual sits on the chair seat;

a support chassis mounted to said back support for supporting said back support at a desired incline with respect to the posts, and at a desired seat depth with respect to the seat; and

a two-point attachment assembly for removably securing said support chassis to the chair, said attachment assembly being connectable to each post at a desired location along each post.

91/93. A backrest system for a chair for seating an individual, comprising: a pair of support tubes connectable to a rear of said chair and ~~extending~~ <sup>extendable</sup> vertically therefrom in a substantially parallel, spaced apart manner; and at least one back support pad attached to at least one of said support tubes at a desired location based upon support needs and proportions of an individual sitting in the chair; said pad being coupled to said support tube by at least one elbow joint, said elbow joint permitting inward, outward and lateral movement of said pad, said elbow joint including a first member having a first end with a first opening extending therethrough and a second end attached to said support tube, said elbow joint further including a second member having a first end coupled to said first end of said first member via a swivel attachment assembly and a second end attached to said pad via <sup>a</sup> said ball and socket joint.

92/94. The backrest system as set forth in claim 91 wherein said swivel attachment <sup>assembly</sup> device includes a post extending outwardly through an opening formed in the first end of the second member and through the first opening of the first member, and a retaining device attached to said post for preventing said post from becoming dislodged from said first and second members and permitting said first member to rotate freely about said post.

93/95. The backrest system as set forth in claim 92 wherein said elbow joint further includes a locking mechanism for selectively preventing rotation of said first member with respect to said second member when said elbow joint is positioned at a desired orientation.

96. A ball and socket joint comprising:  
a substantially spherical ball including a first section, a second section, a threaded opening extending through said second section of said ball;  
a socket having a cavity formed therein that is sized to receive a portion of said ball, said socket including a base having said cavity formed therein, and a bracket secured to said